

SITE READINESS CHECKLIST

AFTER L1 AND BEFORE L2 TRAINING

VISIT:

Dear customer,

In order for COBOD to secure the eligibility of international specialists traveling to your country/site, we need to confirm **all the items** in the below site readiness checklist are **fully completed in green**, verified and approved before securing a fixed date for Level 2 training.

The timeline for us to deploy services (with visas, and other cross-border considerations) is as follows:



We can only start counting the 2 week buffer timer if all items are ready, if they are not, the buffer will continue to be pushed to prevent overlap with other services and/or prevent traveling delays.

FAT HANDOVER **OK/NO**

DOCUMENT INDEX AND SUMMARY:

- A) CUSTOMER INFORMATION **OK/NO**
- B) EQUIPMENT SPECIFICATIONS **OK/NO**
- C) TEAM MEMBERS **OK/NO**
- D) TOOLS **OK/NO**
- E) GROUND READINESS **OK/NO**
- F) SITE ZONING LAYOUT (ARCH) **OK/NO**
- G) UTILITIES **OK/NO**
- H) MATERIALS **OK/NO**
- I) SOFTWARE **OK/NO**

A) CUSTOMER INFORMATION:		
Item	Task/Information	Status: PENDING/READY
#1	Customer name and ERP #: XX	Example: PENDING
#2	Location where L2 will be performed: Coordinates: Link: City: Country:	Example: READY
#3	Customer-responsible information for shipping address: Customer name: Phone: Email: Company Name: Street: City: Country:	Example: PENDING
#4	Installation environment and date (Indoors/Outdoors): XX	PENDING
#5	Tentative L2 start date: XX  Consider the timeframe requirements above.	PENDING
#6	Weather for L2: Your local forecast has reasonable conditions for the training period, 2 weeks (in case installation is outdoors).	PENDING
#7	COBOD Sales representative assigned to customer: XX	PENDING
#8	Printer ETA to site: XX	PENDING
#9	Training time estimation: 2 weeks / Specify any special timing considerations ITS: Materials:	PENDING
B) EQUIPMENT SPECIFICATIONS:		

#10	Printer installation will be in the configuration purchased? Yes/No – Specify Printer Purchased: BOD2/3, x-y-z Printer Installed: BOD2/3, x-y-z	PENDING
#11	Printer system (concrete/mortar):	PENDING
#12	Printer Model: BOD2/3 Printer Configuration: X-X-X Printer dimensions: XXX Printer weight: XXX Printable area (mm): XXX Installation area (mm): XXX	PENDING
#13	Hose system (specify AHMS or HMS): Hose diameter (specify 50mm/75mm): Silver bullet is confirmed (Yes/No):	PENDING
#14	Material Delivery System - MDS (specify model): MDS dimensions: XXX MDS weight: XXX Circulation for boom loader: XXX	PENDING
#15	New items: Example, customer agreed to test a prototype - Specify	PENDING
C) TEAM MEMBERS & TRAVEL PREPERATIONS:		
#16	Access to COBOD Connect: Your team has received, read and studied: 1) Q&A section in COBOD Connect. 2) Equipment Technical Data Sheets. 3) Modeling SOP, Materials SOP, Printer SOP, Pump SOP, Batch plant + silo SOP. 4) Printer SAT, Pump SAT and Batch plant + silo SAT. 5) Operational checklists. 6) Manufacturer manuals. (from 3rd party)	PENDING
#17	L1 training: Customer <u>full</u> team took L1 training and successfully passed all tests. • PO: [name, email, and phone] • MO: [name, email, and phone] • Arc: [name, email, and phone] • Structural Engineer: [name, email, and phone] • Project/Site Manager: [name, email, and phone]	PENDING
#18	L2 weekly program and media on site restriction: Received (and read) L2 program schedule. Your full team will be always present for the two weeks.	PENDING
#19	Media on site: Customer fully understands (and agrees) external media/journalists/YouTubers, fundraising events, live events with government	PENDING

	officials and/or local TV is not allowed while COBOD team members are performing L2 training without previous written authorization.	
#20	Country security risk profile (Travel advisory portal/Embassy): XX	PENDING
#21	Transportation (airport, to-from site): Customer driver assigned / COBOD Rental	PENDING
#22	Health (vaccines/restrictions/medication etc.): *To be advised	PENDING
#23	Region specific (earthquakes, hurricanes, sandstorms etc.): *To be advised	PENDING
#24	Migration (visas, permits): *To be advised	PENDING
#25	Accommodation and area secured: *To be advised	PENDING
D) TOOLS (PO+MO are responsible):		
#26	PPE: Helmet, transparent/sun safety glasses, high visibility clothing, steel toe boots, waterproof and working gloves, hearing protection, additional equipment for extreme hot or extreme cold weather conditions. ⚠️ Customer is responsible to ensure safe working conditions on site.	PENDING
#27	Essential tool kits needed for your team on site: 1) Set up and maintenance kit – Conditional for L2. 2) Customer Printing kit – Conditional for L2. 3) Materials kit – Conditional for L2. 4) Spare parts kit – Optional/recommended. *Notes: -Contact COBOD if you are missing any of the above. -Specify if customer bought them from COBOD or will take full responsibility to source all required tools understanding they are a conditional to schedule L2. ⚠️ Add the name of the person responsible from the customer side to verify inventory for each kit.	PENDING
#28	Machinery for printer-MDS set up and daily operations: 1) Boom loader/Telehandler for installing up to 2Z axis. See example: MT 932 Easy Manitou Manitou MT 932 Easy telehandler specs (2017 - 2020) LECTURA Specs (lectura-specs.com) 2) Boom loader/Telehandler/ front loader for filling the silos when printing every day 3) Crane for printer assembly if you are planning to install more than 2Z modules in height, minimum requirements: 3 tons, 14 m reach.	1. PENDING 2. PENDING 3. PENDING 4. PENDING 5. PENDING

- 4) Crane for removing the 40’ container minimum requirements: 10 tons, 20m reach.
- 5) Telescopic boom lift/Cherry-picker for printer assembly if you are planning to install extra elements at height (BOD3). See example:

*Notes:

Your crane specifications will vary depending on how you plan to install, cranes are determined by the heaviest element to rig (concrete blocks) and the highest element to install (Z modules).

Ensure you have at least one team member certified to operate the boom loader/telehandler on a daily basis.

TELEHANDLER

Key Specs

- **Maximum Lift Capacity:** 7000 lb / 3175.15 kg
- **Maximum Lift Height:** 42 ft / 12.8 m
- **Maximum Reach:** 29 ft 1 in. / 8.86 m



General	
Axle-Front	High Bias, Limited Slip
Axle-Rear	Oscillating
Function Pump Type	Load Sensing Piston
Operating Vehicle Weight	21476 lb / 9741.35 kg
Service Brake Type	Wet Multi-Disc
Transmission - Nr Forward Gears Standard	4
Transmission - Nr Reverse Gears	3
Transmission Type	Powershift

Power Source	
Capacity - Fuel Tank	38.3 gal. / 144.98 L
Engine Horsepower	74 hp / 55.20 kW
Engine Manufacturer	Cummins
Engine Model	QSF 3.8L Tier 4 Final
Maximum Engine RPM	2500 rpm
Dimensional Data	
Ground Clearance	1 ft 5 in. / 0.43 m
Machine Height	8 ft / 2.44 m
Machine Length	18 ft 11 in. / 5.77 m
Machine Width	8 ft 1 in. / 2.46 m
Tire Size	370/75-28
Wheelbase	11 ft 3 in. / 3.43 m
Performance	
Drawbar Pull	19000 lb / 8618.26 kg
Lift Capacity at Full Height	6000 lb / 2721.55 kg
Lift Capacity at Max Reach	1000 lb / 453.59 kg
Load Center	2 ft / 0.61 m
Maximum Lift Capacity	7000 lb / 3175.15 kg
Maximum Lift Height	42 ft / 12.8 m
Maximum Reach	29 ft 1 in. / 8.86 m
Outriggers or Stabilizers	No
Outside Turning Radius	12 ft / 3.66 m
Speed - Maximum Lift	11.3 sec.
Speed - Maximum Lower	9 sec.
Speed - Maximum Telescope In	11.5 sec.
Speed - Maximum Telescope Out	11 sec.
Speed - Maximum Travel	18 mph / 28.97 km/h

TELESCOPIC BOOM LIFT

Key Specs

- Horizontal Outreach: 33 ft 6 in. / 10.21 m
- Platform Height: 40 ft / 12.19 m
- Platform Capacity - Restricted: 1000 lb / 453.59 kg
- Platform Capacity - Unrestricted: 600 lb / 272.16 kg



General	
Capacity - Hydraulic Reservoir	36 gal. / 136.27 L
Maximum Ground Bearing Pressure	58 psi / 4.06 Kg/cm2
Machine Weight	14520 lb / 6586.16 kg
Reach Specifications	
Horizontal Jib Rotation	0 Degrees
Horizontal Outreach	33 ft 6 in. / 10.21 m
Platform Height	40 ft / 12.19 m
Dimensional Data	
Ground Clearance	1 ft / 0.31 m
Machine Height	8 ft 1 in. / 2.47 m
Machine Length	24 ft 10 in. / 7.57 m
Transport Length	24 ft 10 in. / 7.57 m
Machine Width	7 ft 7 in. / 2.31 m
Platform Dimension A	3 ft / 0.91 m
Platform Dimension B	8 ft / 2.44 m
Tailswing	2 ft 10 in. / 0.86 m
Tire Size	12 x 16.5 Foam Filled Lug Tread Tires

	Performance Drive Speed - 4WD 4.5 mph / 7.24 km/h Gradeability - 4WD 45 % Platform Capacity - Restricted 1000 lb / 453.59 kg Platform Capacity - Unrestricted 600 lb / 272.16 kg Swing 360 Degrees Swing Type Continuous Turning Radius - Outside 15 ft 8 in. / 4.78 m Turning Radius - Inside 6 ft 5 in. / 1.96 m Power Source Auxiliary Power 12 Volts DC Capacity - Fuel Tank 22 gal. / 83.28 L Engine Type - Diesel Deutz D2.9L4 Tier 4 Final 49 hp 36.4 kW Engine Type - Dual Fuel GM Vortec 3000 MPFI 82 hp 61 kW <td></td>	
#29	Station work spaces for operators: 1) Printer operator table and chair, with power connections (for laptops, cellphones etc...) and shelter for sun/light rain. 2) Material operator table and chair field desk, with power connections (for laptops, cellphones etc...) and shelter for sun/ light rain. 3) Hydration and safety kit station. 4) Restrooms, clean and organized.	PENDING
#30	Inventory: You have reviewed the inventory checklists (in container and pallets) and confirmed everything is there. Remember to keep the wood stackers and pallets after offloading.	PENDING
#31	BOD2 & BOD3: 16 Pallets for X-axis assembly.	PENDING
E) GROUND READINESS (PM/SM is responsible):		
#32	Ground levels: Consider the weight of your printer and MDS as specified above when analyzing site soil conditions and requirements, ensure you understand your dimensions and placement. Ensure you have all the information to correctly inform your surveyor about important points in the installation before equipment placement.	PENDING
#33	Soil compaction: It is clear for both parties that soil should be leveled and correctly compacted according to soil specs to prevent equipment tilting. Soil deformation due to rain, columns sinking and general misalignment may occur if soil compaction is disregarded.	PENDING
#34	Wet zones:	PENDING

	Implement precaution when understanding potential wet zones/slopes that could potentially affect your printing area and Material Delivery System area (MDS becomes a wet area throughout the operation, which might deform soil conditions and tilt equipment if not handled correctly).	
#35	Mounting systems:	PENDING
	1) BOD2/BOD3 Concrete Slab: Your slab should follow the same depth considerations in the Z columns as the concrete blocks rod depth minimum (30 cm).	PENDING
	2) BOD 2 Concrete Blocks: We have two options of blocks, for printers of 2Z heights, and above 2Z heights, drawings available in COBOD Connect. HILTI glue specifications available in COBOD Connect (HIT-RE 500 V3INJECTION MORTAR). *Notes: • If you order the blocks to a 3rd party prefab contractor we recommend that the rods are drilled and added after. • Whenever you apply HILTI a wider diameter should be considered in order to allow enough bonding contact surface.	PENDING
	3) BOD3 - Driving plates for BOD3 	PENDING
F) SITE ZONING LAYOUT (ARCH is responsible):		
#36	Layout: A site layout is presented to COBOD in our touchpoint calls to specify the location of the following elements in the ground.  Discuss frame movement with internal columns clearance!	PENDING
#37	Printing zone: Slab or concrete blocks to hold printer. Printing area where concrete is extruded.	PENDING
#38	Material Delivery System (MDS) zone: This is where your batch plant, pump and silo will be placed. Ensure proper access to and from MDS silos with boom loader towards the concrete washout area.	PENDING
#39	Bulk material storage zone: Ensure bulk materials are properly stored away from humidity and contamination (tarp or pallet below). Location should be conveniently close to MDS with enough space for boom loader maneuvers. Other materials: add mixtures, curing agents, bonding agents etc will also have to be placed near the MDS section.	PENDING

[illegible]

#47	Water: Drinkable grade. Min 3bar (preferred 3-5 bar), 50-100 L/min, constant flow. Water temperature to be reviewed with your material supplier. Temperature: 5-25 degree Celsius/ 41-77 degree Fahrenheit We do not recommend water tanks, however, if this was strictly necessary we recommend the water tank to be <u>minimum</u> 10,000 liters (will last 4 days before truck refill requirement).	PENDING
#48	Lintels and PVC pipe sections: During the printing exercises you will be tasked to integrate small items into the walls to imitate the roles of plumbing and electrical integration, please have these items ready for practice. A cutting wire will also be helpful for pre-sectioning tests before disposal.	PENDING
H) MATERIALS (MO is responsible):		
#49	Aggregates <u>are on site</u> (sand and gravel based on recipe): XX Add photos:	PENDING
#50	Cement <u>is on site</u> (based on recipe): Add photos: *Technical sheet provided to COBOD? *Confirmed enough quantity for 10m3.	PENDING
#51	Raw materials data sheets where shared: Sent and approved by COBOD specialist.	PENDING
#52	Preliminary mix design recipe: Reviewed and approved.	PENDING
#53	Premix: XX	PENDING
#54	Curing agent: XX Curing Strategy: XX	PENDING
#55	Bonding agent: XX	PENDING
#56	Fibers: XX	PENDING
#57	Hose primer: XX	PENDING
#58	Add mixtures: XX	PENDING
#59	Extender (optional): XX	PENDING
H) SOFTWARE (PO is responsible):		
#60	Slicer license and version confirmed:	PENDING
#61	L2 Printable file parameters ready and reviewed:	PENDING
#62	L2 integrated wall elements: You can check the section in inventory to purchase all the right samples.	PENDING

Add drone picture from your site:

X

Add site layout according with section B), below a BOD3 example:

